

TEST REPORT

KOTITI No. | 8224-1401-104764

Applicant | Avery Dennison Korea

Date In | Aug 07, 2024

Date Out | Aug 19, 2024

Issue No	0322750163
Sample Description	Semi CL OPP
Sample Quantity	One (1) Sample(s)
Buyer	N/S
Item Number	Semi CL OPP
Material	film
Testing Period	Aug 07, 2024 ~ Aug 19, 2024
Test Result	For further details, please refer to the following page(s).

*N/S : Not Submitted, N.A. : Not Applicable, N.D. : Not Detected [< RL(Report Limit)]

*Negative : Not Detected, Positive : Detected

Affirmation	Prepared by Name : Seung Yoon Choi	Technical Manager Name : Gun Young Ryu
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KOTITI Testing & Research Institute



Contact Information for technical questions and general inquiries.

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- The test results contained in this report are limited to results on the sample(s) that is provided by client and are not necessarily indicative or representative of the qualities of the lot from which the sample(s) was taken or of all products.
- Further use of the results of this report is prohibited unless allowed under a separate agreement set forth in an official document that is established between the client identified on this letter and the KOTITI Testing & Research Institute.
- The test result in this report is not related to Accreditation of KOLAS.
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QPF-16-06(rev.02)



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Tested Sample List			
Sample No.	Sample Description	Item No.	Material
1	Semi CL OPP	Semi CL OPP	film

RoHS, Unit : mg/kg
(EU Directive 2011/65/EU, 2015/863/EU)

Test Conducted	Test Method	RL	Test Results
Lead (Pb)	IEC 62321-5:2013 (Acid digestion and determined by ICP-OES)	5	N.D.
Cadmium (Cd)		2	N.D.
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV (Acid digestion and determined by ICP-OES)	1	N.D.
Hexavalent Chromium(Cr ⁶⁺)	IEC 62321-7-2:2017 (Solvent extraction and determined by UV-VIS)	8	N.D.
* Polybrominated Biphenyls(PBBs)			
Bromobiphenyl	IEC 62321-6:2015 (Solvent extraction and determined by GC-MS)	5	N.D.
Dibromobiphenyl		5	N.D.
Tribromobiphenyl		5	N.D.
Tetrabromobiphenyl		5	N.D.
Pentabromobiphenyl		5	N.D.
Hexabromobiphenyl		5	N.D.
Heptabromobiphenyl		5	N.D.
Octabromobiphenyl		5	N.D.
Nonabromobiphenyl		5	N.D.
Decabromobiphenyl		5	N.D.
Sum of PBBs		-	N.D.
* Polybrominated Diphenyl Ethers(PBDEs)			
Bromodiphenyl ether	IEC 62321-6:2015 (Solvent extraction and determined by GC-MS)	5	N.D.
Dibromodiphenyl ether		5	N.D.
Tribromodiphenyl ether		5	N.D.
Tetrabromodiphenyl ether		5	N.D.
Pentabromodiphenyl ether		5	N.D.
Hexabromodiphenyl ether		5	N.D.
Heptabromodiphenyl ether		5	N.D.
Octabromodiphenyl ether		5	N.D.
Nonabromodiphenyl ether		5	N.D.
Decabromodiphenyl ether		5	N.D.
Sum of PBDEs		-	N.D.

Phthalates, Unit : mg/kg
(EU Directive 2011/65/EU, 2015/863/EU)

Test Conducted	Test Method	RL	Test Results
di-n-butyl phthalate (DBP)		50	N.D.
di(ethylhexyl) phthalate (DEHP)		50	N.D.
butyl benzyl phthalate (BBP)		50	N.D.
diisobutyl phthalate (DIBP)	IEC 62321-8:2017 (Solvent extraction and determined by GC-MS or LC-MS)	50	N.D.
di-isonyl phthalate (DINP)		50	N.D.
Di-n-hexyl Phthalate (DnHP)		50	N.D.
di-iso-decyl phthalate (DIDP)		50	N.D.
Di-n-octyl Phthalate (DNOP)		50	N.D.

Halogen, Unit : mg/kg

Test Conducted	Test Method	RL	Test Results
Bromine (Br)		30	N.D.
Chlorine (Cl)	IEC 62321-3-2:2020 & KS M 0180:2009 determined by C-IC	30	N.D.

Sulfur (S), Unit : mg/kg

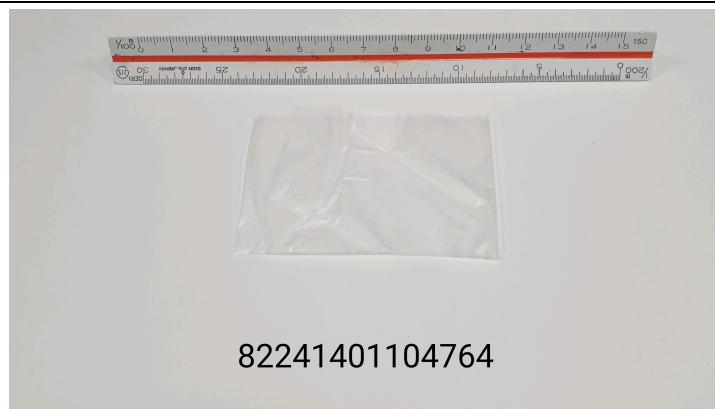
Test Conducted	Test Method	RL	Test Results
Sulfur (S)	IEC 62321-3-2:2020 & KS M 0180:2009 determined by C-IC	30	876.5

Heavy metal, Unit : mg/kg

Test Conducted	Test Method	RL	Test Results
Antimony (Sb)	Reference to EPA 3052:1996 determined by ICP-OES, AAS	5	N.D.
Beryllium (Be)		5	N.D.

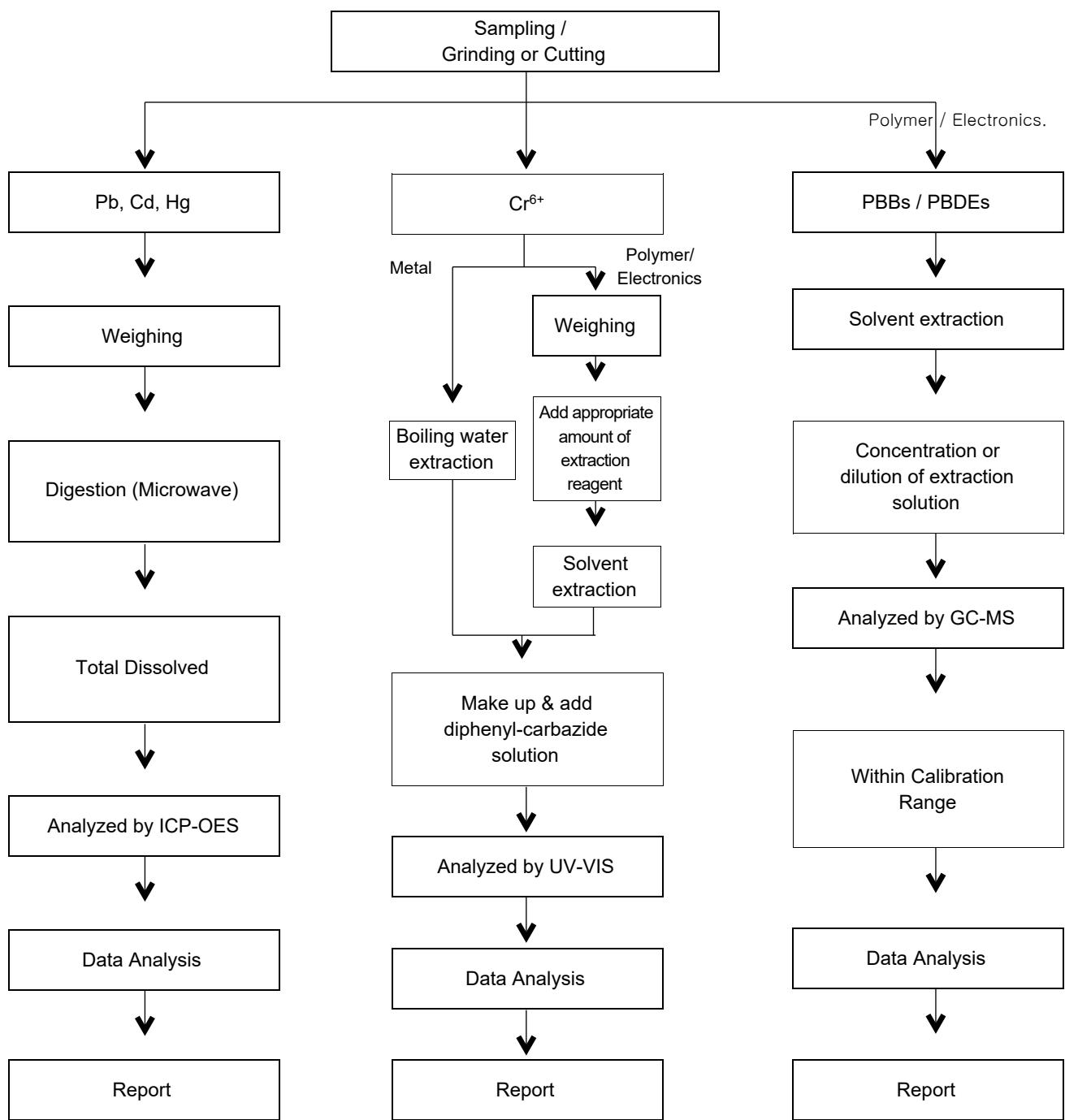
Photo of the submitted sample(s)

Sample No.1

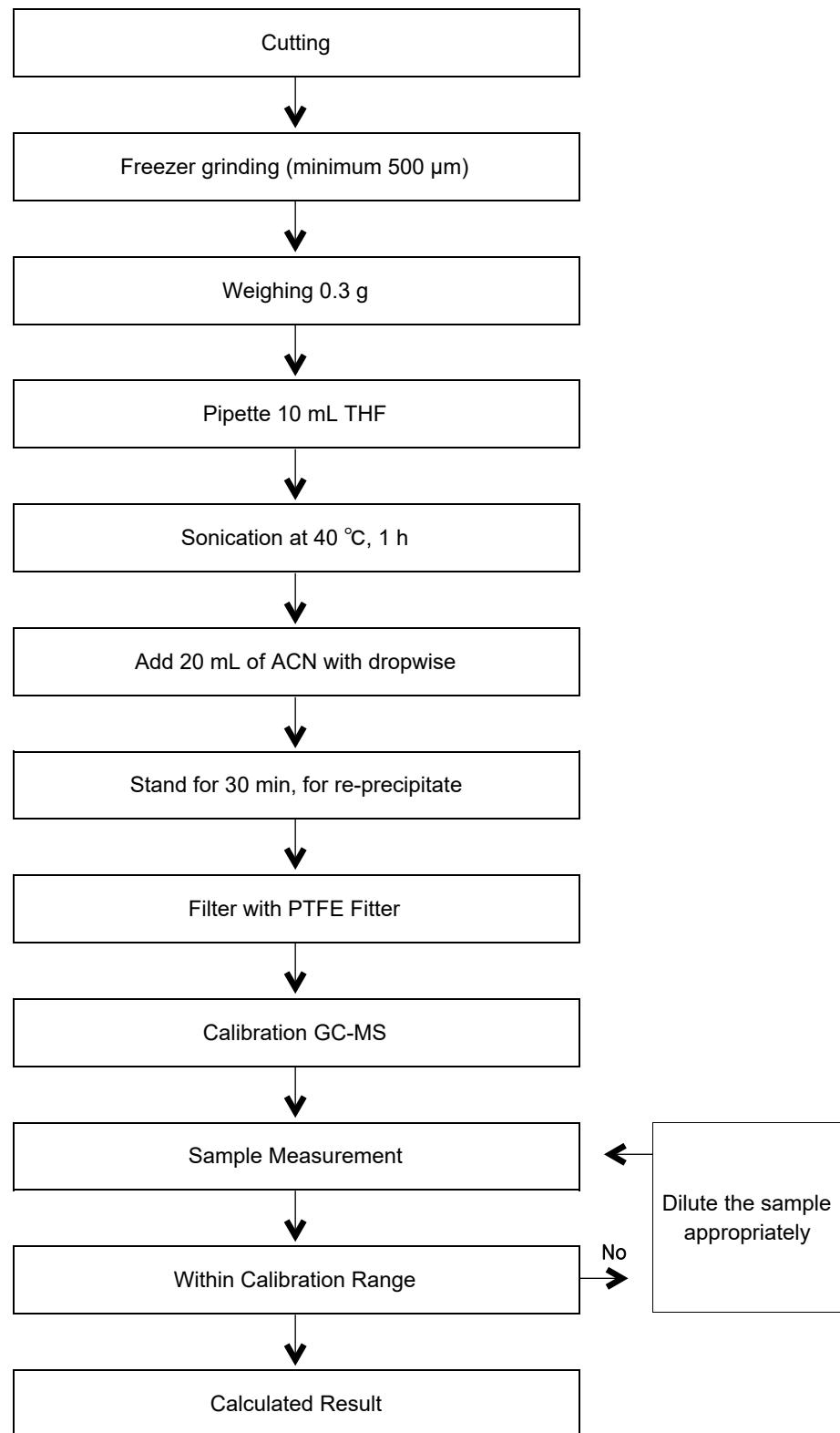


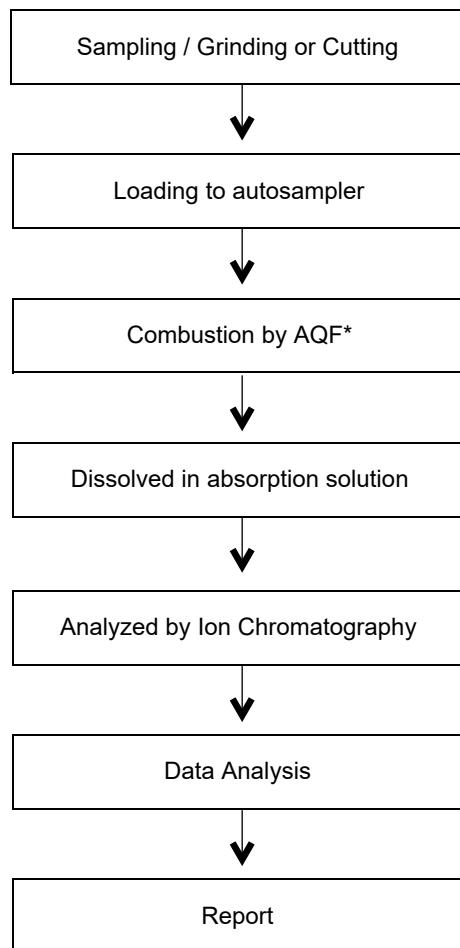
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Flow Chart

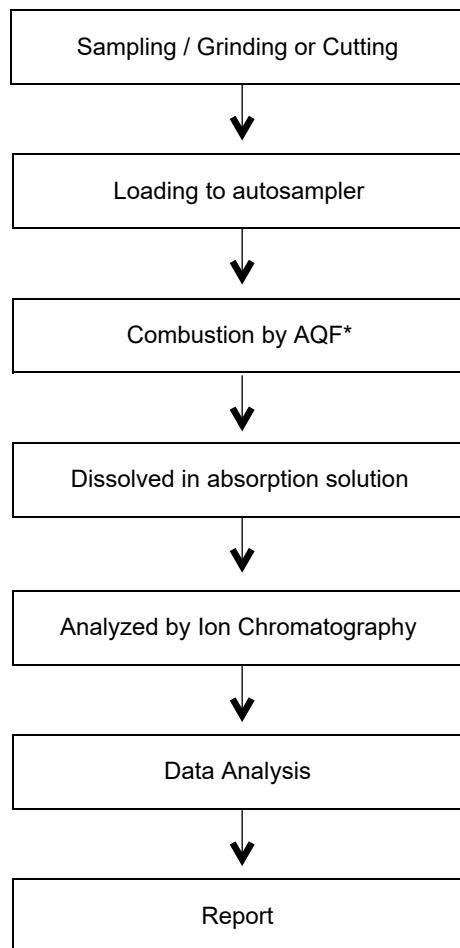
RoHS(Pb, Hg, Cd, Cr⁶⁺, PBBs/PBDEs)

Material	Digestion Acid
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₂ SO ₄ , etc.
Metals	HNO ₃ , HCl
Electronics	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₂ SO ₄ , etc.

Flow Chart**Phthalates**

Flow Chart**Halogen**

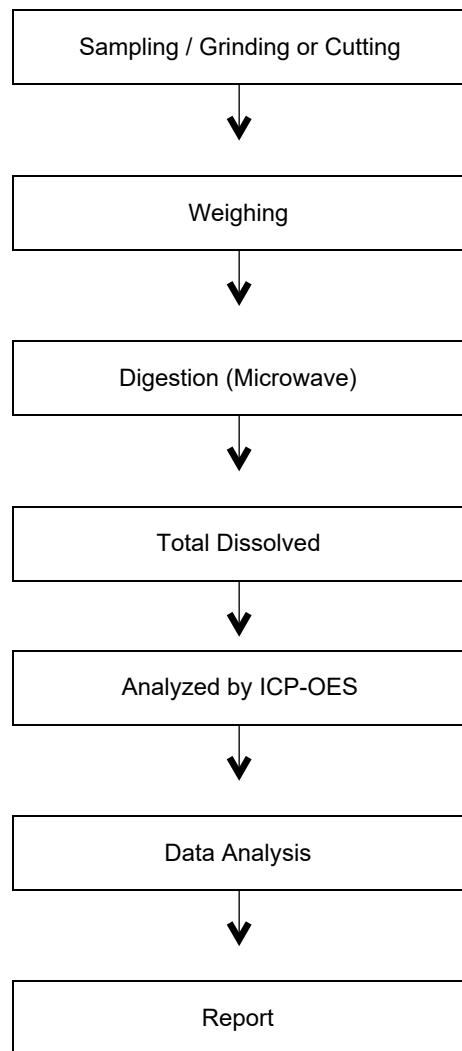
*AQF : Automated Quick Furnace

Flow Chart**Sulfur**

*AQF : Automated Quick Furnace

Flow Chart

Heavy metal



Material	Digestion Acid
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₂ SO ₄ , etc.
Metals	HNO ₃ , HCl
Electronics	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₂ SO ₄ , etc.